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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SELLERS, DANIEL R

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,749

Applicant(s)

GIBBS ET AL.

Examiner

Daniel R. Sellers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 28-37** is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Birrell (previously cited) in view of Biliris et al. (prior art made of record and not previously relied upon, hereinafter Biliris).

3. Regarding **claim 28**, Birrell teaches a portable media player (Col. 3, lines 31-39 and Fig. 1) comprising:

*a processor that executes commands (Col. 4, lines 30-37 and Fig. 1, unit 102);
a random-access-memory component that stores compressed data in more than two different random-access-memory buffer areas, each random-access-memory buffer lockable and unlockable by the processor (Col. 6, lines 5 - Col. 7, line 11, Col. 8, lines 35-49, and Fig. 1, unit 108);
a codec component, controlled by the processor, that reads compressed data from a locked random-access-memory buffer, the locked random-access-memory buffer selected from among the more than two different random-access-memory buffer areas and locked by the processor to prevent writing of the locked random-access-memory buffer by another component, and that generates a decompressed signal from the read compressed data that is rendered by a data-rendering component (Col. 5, lines 9-14, lines 22-23, Col. 5, line 62 - Col. 6, line 4, Fig. 2B, unit 168, and Fig. 3, step 220);
a non-volatile, mass-storage component that stores compressed data and that writes compressed data, under control of the processor, to unlocked random-access-memory buffers (Col. 5, lines 9-14, lines 20-21, Col. 6, lines 5-58, Fig. 1, unit 102, 104, and 108, Fig. 2B, unit 166, and Fig. 3); and
a battery power supply to provide electrical power to the processor, random-access memory component, codec component, data-rendering component, and non-volatile, mass-storage component (Col. 4, lines 1-2, line 15, and Fig. 1, unit 122).*

For example, Birrell teaches a portable multimedia player (Col. 3, lines 35-38), which uses several large buffers (Col. 6, lines 29-42), for instance in a preferred embodiment, stores 10 minutes of audio (Col. 6, lines 29-58). The player allows fast-forwarding (i.e.

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look-ahead buffers) and rewinding (i.e. look-back buffers) (Col. 6, line 59 - Col. 7, line 11). It is inherent that a portion of the RAM is locked, and the processor prevents the data to be overwritten. Likewise, it is inherent that a portion of the RAM is unlocked, and the processor allows data from the mass-storage component to be written to the RAM. However, Birrell does not teach a plurality of buffers.

Biliris teaches a multimedia server, which allows fast-forwarding and rewinding of multimedia streams (Col. 2, lines 34-51, Col. 11, lines 21-65, and Fig. 5A). Biliris teaches a method implementing a circular buffer, or queue, of a plurality of buffers (Col. 5, line 48 - Col. 6, line 1 and Col. 11, lines 21-65), wherein the large buffer taught by Birrell could be replaced for the purpose of reducing buffer areas to a certain amount of samples, or seconds of samples (i.e. each buffer can correspond to be fixed to 60 seconds). One of ordinary skill at the time of the invention would be motivated to use a plurality of buffers, with associated start and end addresses in memory, so that the processor can issue seek commands more efficiently, by skipping to the beginning of one of many buffers in a circular queue separated by a defined granularity (Biliris, Col. 10, lines 20-30, Col. 11, lines 57 - Col. 12, line 26, Col. 12, line 39 - Col. 13, line 7, and Col. 13, line 59 - Col. 14, line 18). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Birrell and Biliris for the purpose of improving fast-forward, rewinding, or trick play commands.

4. Regarding **claim 29**, the further limitation of claim 28, Birrell teaches a portable media player, wherein the processor continuously monitors progress of the codec component in decompressing data in order to:

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*power up the non-volatile, mass-storage component (Col. 6, lines 14-16);
direct the non-volatile, mass-storage component to write additional compressed data to multiple random-access-memory buffers and redirect the codec component to read the additional compressed data from the multiple random-access-memory buffers so that the codec component can continue to generate a decompressed signal without interruption (Col. 6, lines 5-58); and
power-down the non-volatile, mass-storage component (Col. 6, lines 14-16).*

The combination teaches these features.

5. Regarding **claim 30**, the further limitation of claim 29, Birrell teaches a portable media player, wherein

the processor, following reception of a fast-forward command that redirects rendering, by the data-rendering component, of compressed data starting at a desired location within a compressed- data sequence not currently stored within the more than two different random-access-memory buffer areas, directs the non-volatile, mass-storage component to write compressed data, starting at a location prior to the desired location in the compressed-data stream and ending at a location following the desired location in the compressed- data stream, to multiple random-access-memory buffers (Col. 6, line 59 - Col. 7, line 11).

The combination teaches these features, wherein Birrell teaches a large buffer for fast-forwarding and rewind operations and Biliris teaches a large buffer composed of a plurality of smaller or sub-buffers.

6. Regarding **claim 31**, the further limitation of claim 29, see the preceding argument with respect to claim 30. The combination teaches a portable media player wherein

the processor, following reception of a rewind command that redirects rendering, by the data-rendering component, of compressed data starting at a desired location within a compressed-data sequence not currently stored within the more than two different random-access- memory buffer areas, directs the non-volatile, mass-storage component to write compressed data, starting at a location prior to the desired location in the compressed-data stream and ending at a location following the desired location in the compressed- data stream, to multiple random-access-memory buffers (see the preceding argument with respect to claim 30).

The combination teaches these features.

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7. Regarding **claim 32**, the further limitation of claim 29, see the preceding argument with respect to claim 30. The combination teaches a portable media player wherein

the processor following reception of a rewind command that redirects rendering, by the data-rendering component, of compressed data starting at a desired location within a compressed- data sequence not currently stored within the more than two different random-access-memory buffer areas, directs the non-volatile, mass-storage component to write compressed data, starting at a location prior to the desired location in the compressed- data stream and ending at a location at which subsequent compressed-data of the compressed-data sequence is already stored in the more than two different random- access-memory buffer areas, to multiple random-access-memory buffers (Birrell teaches a threshold for determining reading data from the mass-storage and writing to the random-access-memory).

The combination teaches these features.

8. Regarding **claim 33**, the further limitation of claim 29, Birrell teaches a portable media player wherein

the processor, following reception of a fast-forward command, predicts portions of a compressed- data sequence that are likely to be accessed by additional fast-forward commands and directs the non-volatile, mass-storage component to write predicted portions of the compressed data to multiple random-access-memory buffers (Col. 8, lines 35-49).

In the combination, Birrell teaches many data sequences, or N last played songs, that are written to buffers in a non-volatile low power memory (i.e. a flash based memory).

Birrell teaches that it is desirable to have N last played songs quickly accessible in the flash memory after turning on the portable media player (Col. 7, lines 27-42). Birrell also teaches the power down condition may be one of a variety of conditions (Col. 7, lines 23-26). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings within Birrell and provide prediction buffers in the main random-access-memory instead of the flash memory for quicker access.

9. Regarding **claim 34**, the further limitation of claim 29, see the preceding argument with respect to claim 29. The combination teaches a portable media player wherein

the processor minimizes the number of times that the processor powers up the non-volatile, mass-storage component.

The combination teaches these features (Birrell, Col. 6, lines 56-58).

10. Regarding **claim 35**, the further limitation of claim 29, see the preceding argument with respect to claims 29 and 34. The combination teaches a portable media layer wherein

the processor minimizes the duration of time during which the non-volatile, mass-storage component is powered up.

The combination teaches these features.

11. Regarding **claim 36**, the further limitation of claim 29, see the preceding argument with respect to claim 28, the combination teaches a portable media player wherein

the processor locks only a single random-access-memory buffer at any point in time.

In the combination, Birrell teaches that buffers that are needed for rewind are locked and only accessible by read commands. Biliris teaches that various modes of granularity can be used to aid in fast-forwarding and rewinding. It is possible that one buffer, is 57 seconds long (as mentioned in one embodiment of Biliris) and the predetermined threshold, until a read from the mass media is required, is also 57 seconds long. This combination would require the processor to lock only one buffer at any point in time.

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12. Regarding **claim 37**, the further limitation of claim 29, see the preceding argument with respect to claim 28. Birrell teaches a portable media player wherein

*the compressed data is a compressed audio signal (Col. 2, lines 60-62; and
the decompressed signal is a decompressed audio signal (Col. 2, lines 62-65).*

The combination teaches a portable audio player that plays compressed audio.

Response to Arguments

13. Applicant's arguments with respect to claims 28-37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Parry et al., USPN 6,378,035 - teaches circular buffers with lockable and unlockable sections (Fig. 6-8, 9A-B, 10, 11A-B, and 12);

Compaq's System Research Center, The Personal Jukebox
(<http://research.compaq.com/SRC/pjb>) - teaches the PJB-100, a commercially available portable media player, which plays mp3 data stored on a portable hard drive; and

HanGo Electronics' "Personal Jukebox"
(<http://web.archive.org/web/20000229023013/www.pjbox.com/product.htm>) - teaches the same commercially available portable mp3 player.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRS



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SUPERVISORY PATENT EXAMINER